

## Diamond exploration in Eastern Finland

## CORPORATE

Price: 0.76p

Sector: Metals &amp; Mining

## Share Price Performance



Source: London Stock Exchange

## Key Data

Market:	London (AIM)
TIDM:	<a href="#">KDR.L</a>
1 Year Hi/Lo:	1.8p – 0.7p
Existing Shares:	286.53m
Market Cap:	£2.17m
ISIN:	IE00B01ZSK94
SEDOL:	B085SD5
Co. Website:	<a href="http://kareliandiamondresources.com">kareliandiamondresources.com</a>

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Karelian has been hunting for diamonds in Finland for 10 years. It is focused on the Finnish side of an Archean Craton which hosts Alrosa's Lomonosova and Lukoil's Grib mines in Russia, both these mines are large operations. Karelian and its partner Rio Tinto are searching for something similar in Finland. Karelian has had various successes, including a recent (2015) new kimberlite discovery in a place called Riihivaara. This is the current focus and likely to be the main source of news flow during 2016.

Although Karelian's exploration activities are relatively early stage and high risk, Eastern Finland is an underexplored region which is known to host diamondiferous kimberlites in very similar rocks to those in Russia. The potential of finding a large diamond mine in a stable, mining friendly, jurisdiction is the basis of the Karelian investment case.

## Karelian's portfolio of kimberlites

Karelian is focused on two areas in Finland – Kuhmo and Kuopio-Kaavi. In Kuhmo, Karelian's main projects are Riihivaara and Seitaperä (setepira). The former is a new kimberlite, discovered in 2015 and Karelian's current focus. Rio's team is involved in analysing the deposit's chemistry. Meanwhile, in the search for larger kimberlite bodies, regional geochemical sampling is ongoing.

## Rio Tinto agreement

In 2014 Karelian signed a confidentiality agreement with back-in rights with Rio Tinto. In return for Rio disclosing confidential information to Karelian, Rio has the right to earn 51% in any of Karelian's projects in return for funding construction of a mine i.e. if any of Karelian's projects end up being built by Rio, Karelian retains a 49% free carried interest to production.

## Russian mines on the Archean Craton

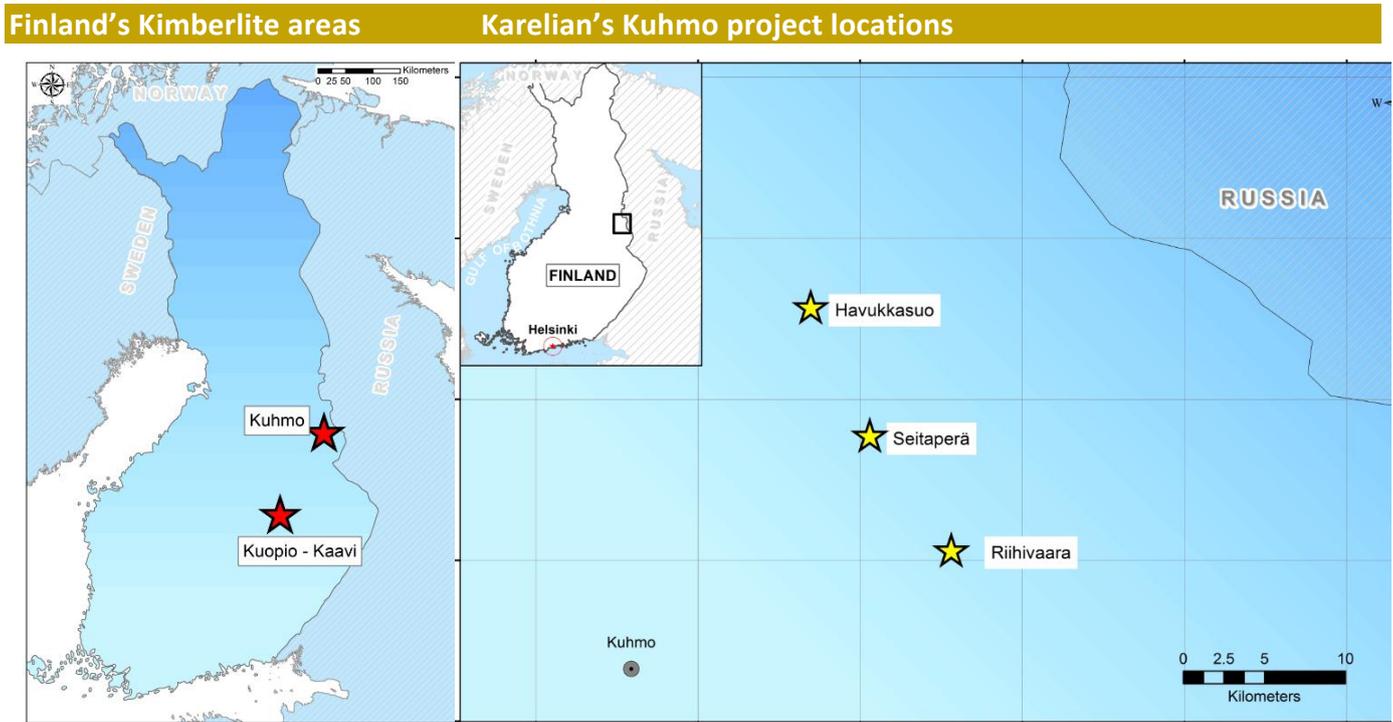
The Lomonosova and Grib mines were discovered relatively recently (1980's). Grib is expected to produce 4.5Mcts in 2016, which would make it one of the largest mines in the world. Lomonosova produces less (circa 1.4 million carats per year) but has a very substantial 96 million tonne resource.

## Finland – mining friendly

Finland is regarded as one of the best countries in which to mine. According to the Fraser Institute's latest report, Finland sits at number 5 in its Investment Attractiveness Index which looks at both mineral and policy perception.

## Finish Diamonds - an overview

The Archean Craton which straddles Russia and Finland is known to host diamondiferous kimberlites, and most notably the Grib Mine and Lomonosova Mines on the Russian side. In Finland several diamond bearing kimberlites have been discovered. The two main areas are Kuhmo-Lentiira in Eastern Finland and Kuopio-Kaavi approximately 200km to the south. Well known kimberlites include AG Mining's Lahtojoki (lakto-joki) kimberlite in Kuopio-Kaavi and Karelian's Seitaperä (setepira) in Kuhmo-Lentiira. Lahtojoki is probably the most advanced kimberlite diamond project in Finland.



Source: Karelian Diamond

## Kuhmo area (kufmo)

### Karelian's Riihivaara (rihavara) kimberlite

In Q1 2015 Karelian discovered a new kimberlite body in the Kuhmo area. This is the first discovery of a kimberlite body in Finland in over 10 years. The kimberlite extends for at least 250m and is likely to be a dyke. It remains open in both directions along strike, and at depth, with widths of up to 2m intersected.

The Riihivaara kimberlite shows positive mineral chemistry results for diamonds. Diamond indicator Type I eclogitic garnets are abundant and these tend to be associated with diamonds. Similarly, G10 harzburgitic garnets were also present in the sample and these are also associated with the presence of diamonds. Rio Tinto's analysis on samples collected close to the kimberlite body identified other high category diamondiferous kimberlite indicator minerals. An extensive ground magnetic survey has been undertaken which has identified new diamond exploration targets within the immediate area.

### Karelian's Seitaperä (setepira) kimberlite

Karelian's Seitaperä project was a key focus for the company in 2007-2008. A sampling programme in 2008 involved the micro-diamond analysis of 5 bulk samples taken from different parts of the kimberlite. The best result was from the first sample which produced 61 micro-diamonds and 7 macro-diamonds from a 100 kg sample, suggesting potential for economic diamond grades.

Of the other 4 samples, one contained diamonds while the others did not. These results show that the Seitaperä kimberlite has highly variable grade and more work is required to determine the extent of the high grade areas. We note the kimberlite is quite large (6.9ha at surface) and has the potential to contain a significant tonnage of higher grade rock.

Karelian also has the Havukkasuo kimberlite where recent work identified high concentrations of kimberlite indicator minerals. Two samples each reported over 100 kimberlite indicator minerals. These results imply a previously unknown extension of the Havukkasuo kimberlite body.

## Kuopio-Kaavi (kupio-kavé)

In the 1960's a Finnish copper mining company (Malmikaivos Oy) discovered the first kimberlite in the Kuopio-Kaavi area. In 1986 Ashton Mining Ltd set-up a joint venture with Malmikaivos Oy's to progress the diamond interests, before it acquired 100% of Malmikaivos Oy in 1994.

Ashton discovered a further 19 kimberlites in the Kuopio cluster. Approximately two thirds of these are diamond bearing. Ashton was acquired by Rio Tinto. AG Mining now owns kimberlite #7 while Karelian owns kimberlite #21.

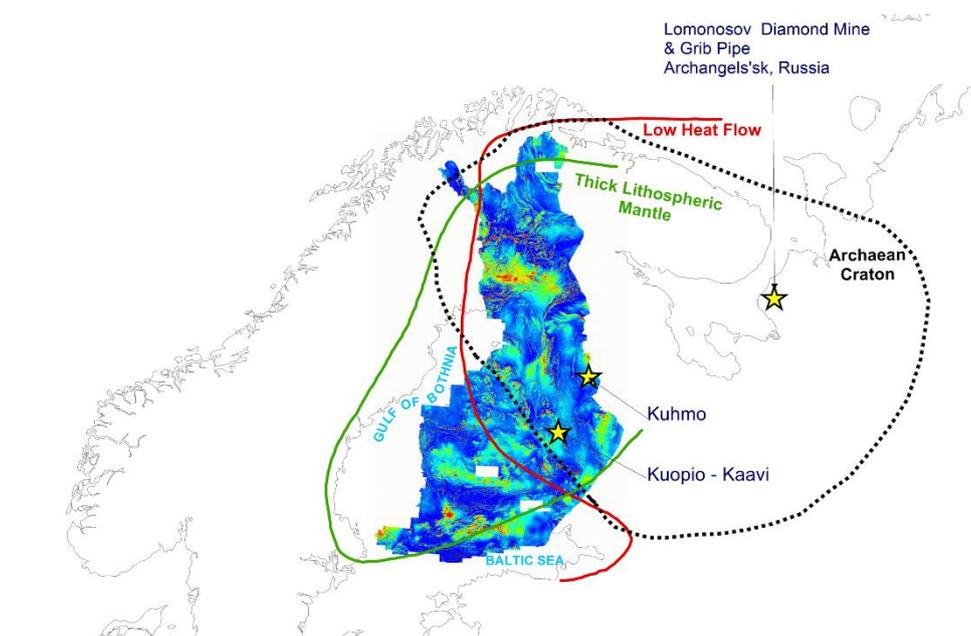
### AG Mining - Lahtojoki (lakto-joki) Kimberlite #7

The Lahtojoki Kimberlite (pipe no. 7) is the most well-known pipe in the Kaavi-Kuopio region and probably all of Finland, discovered by Ashton in 1988 and currently owned by AG Mining. Lahtojoki has been partly evaluated although grade and value data are as yet unknown. That said, a 1.8 tonne drill sample in 2004 showed a grade of 44 carats per hundred tonnes (CPHT). 23% of the 1,096 stones were macro diamonds.

### Kimberlite #12, 13, 20, 21, and 22

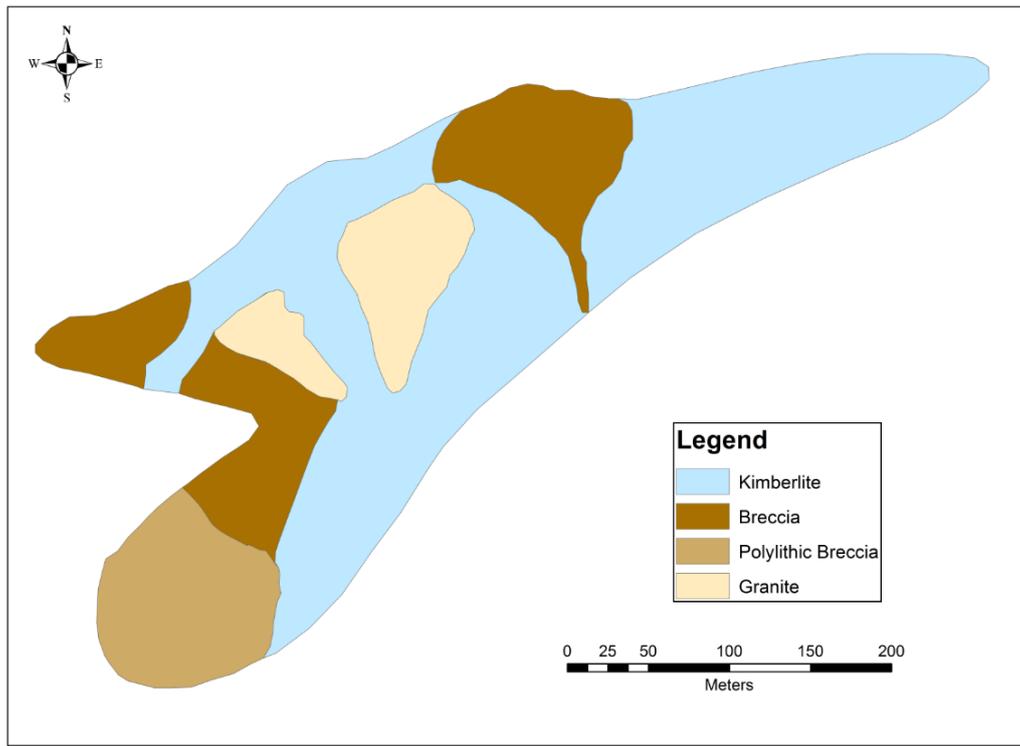
Karelian controls #12, 13, 20, 21 and 22 a series of kimberlite pipes in the Kuopio-Kaavi area a number of which are diamond bearing including body 21. A sample from #21 produced 128 diamonds of greater than 0.8 mm and a large single stone of 1.126 ct.

## Archean Craton



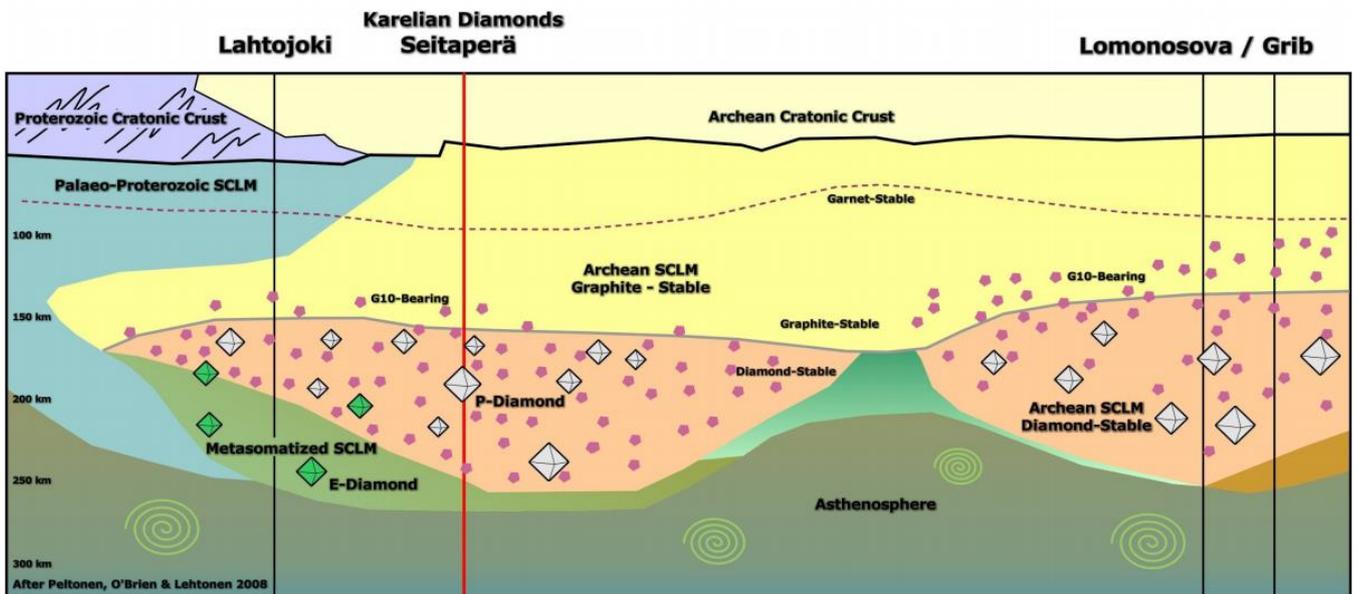
Source: Karelian Diamond

Seitaperä



Source: Karelian Diamond

Conceptual cross section of Archean Craton



Source: Karelian Diamond

## NOTES

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Karelian Diamond Resources

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